

SJP

WHAT IS CLAIMED IS:

1. An optical recording medium having a phase change recording layer containing antimony as a main component, in which recorded marks having a shortest length of up to 350 nm are formed.
2. The optical recording medium of claim 1 wherein said recording layer further contains tellurium or indium or both as a main component.
3. The optical recording medium of claim 1 wherein said recording layer further contains at least one element selected from the group consisting of germanium, nitrogen and rare earth elements as an auxiliary component.
4. An optical recording method comprising the step of irradiating recording beam which has been power modulated between a high power and a low power, to the optical recording medium of any one of claims 1 to 3 for thereby forming amorphous recorded marks in the recording layer, said recorded marks including shortest recorded marks having a leading edge and a trailing edge, at least a part of the trailing edge being convex toward the leading edge.
5. The optical recording method of claim 4 wherein the convex shape at the trailing edge of the shortest recorded marks is formed by causing the regions melted by irradiation of recording beam to crystallize.
6. The optical recording method of claim 4 wherein the shortest recorded marks are formed so as to meet the relationship:
$$M_L \leq 0.4\lambda/NA$$
wherein the shortest recorded marks have a length M_L , the recording beam has a wavelength λ , and an objective lens of

a recording optical system by which the recording beam is transmitted has a numerical aperture NA.

7. The optical recording method of claim 4 wherein the
5 shortest recorded marks are formed so as to meet the relationship:

$$M_w/M_L > 1$$

wherein the shortest recorded marks have a width M_w and a length M_L .

206780 "OPTICAL RECORDING APPARATUS"